

CONTENTS

Preface.....	i
Combined ground and <i>in-situ</i> measurements needed in solar-terrestrial research Alv EGELAND	1
Geospace environmental monitoring at Zhongshan Station, Antarctica Ruiyuan LIU and Daren LÜ	13
A review of radar and satellite beacon observations of atmospheric gravity waves at Syowa Station Tadahiko OGAWA	28
The thermosphere at South Pole Roger W. SMITH and Gonzalo HERNANDEZ	44
Neutral atmosphere dynamics in the <i>E</i> - and <i>F</i> -regions from Fabry-Perot Doppler imaging observations Minoru KUBOTA, Shoichi OKANO and Hiroshi FUKUNISHI	55
Ozone variation in the southern polar stratosphere Hartwig GERNANDT, Andreas HERBER, Peter VON DER GATHEN and Susumu KANETO	68
Irregular ozone depletion events in the Antarctic troposphere recorded at Neumayer Station in 1992 and 1993 Silke WESSEL, Andreas HERBER, Hartwig GERNANDT, Shuhji AOKI, Peter WINKLER, Rolf WELLER and Otto SCHREMS	89
Meridional distributions of deuterium in atmospheric water vapour between tropical and southern polar latitudes Günter SCHWARZ, Peter KOWSKI, Susumu KANETO and Hartwig GERNANDT	102
Polar UV measurements—Ozone depletion and biological significance C. R. BOOTH and J. R. TUSSON	111
Surface UV radiation environment over the Antarctic: Role of surface and cloud processes Catherine GAUTIER, Paul RICCHIAZZI and Shiren YANG	122
Spring peaks of major and trace elements in snow at Asuka Station, East Antarctica Masaya Ikegawa, Mieko KIMURA, Kazuto HONDA, Kazuo MAKITA, Hideaki Motoyama, Yoshiyuki FUJII and Yoshinori Itokawa	135
Classification of polar satellite data using minimum distance method Ken'ichiro MURAMOTO, Mamoru KUBO, Hideo SAITO and Takashi YAMANOUCHI	149

Atmospheric carbon dioxide and methane concentrations in the past and synchronisation of ice core records from both hemispheres based on methane results Bernhard STAUFFER	158
Antarctic marine ecosystems research; Where to from here? Sayed Z. EL-SAYED	172
Temporal changes in marine environments in the Antarctic Peninsula area during the 1994/95 austral summer Suam KIM, Volker SIEGEL, Roger P. HEWITT, Mikio NAGANOBU, David A. DEMER, Taro ICHII, Sung-Ho KANG, So KAWAGUCHI, Valerie LOEB, Anthony F. AMOS, Kyung H. CHUNG, Osmund HOLM-HANSEN, Won C. LEE, Nelson SILVA and Manfred STEIN	186
Long-term observation of zooplankton biomass in the Indian Ocean sector of the Southern Ocean Kazutaka TAKAHASHI, Atsushi TANIMURA and Mitsuo FUKUCHI	209
Antarctic fish <i>Trematomus bernacchii</i> as biomonitor of environmental contaminants at Terra Nova Bay Station (Ross Sea) Roberto BARGAGLI, Simonetta CORSOLINI, Maria C. FOSSI, Juan C. SANCHEZ-HERNANDEZ and Silvano FOCARDI	220
Environmental geochemical and biological features of Antarctic oases Genki I. MATSUMOTO	230
Program of the International Symposium on Environmental Research in the Antarctic	251
Author index	254